

GenCore version 4.5
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OM protein - protein search, using sw model

Run on: March 1, 2001, 15:47:08 ; Search time 210.42 Seconds

(without alignments)
11.213 Million cell updates/sec

Title: US-09-331-631a-3_COPY_117_185

Perfect score: 384
Sequence: 1 NKGRDPGQGYEQCGECGRH.....EEQGREDEKYEERMKEDN 69

Scoring table: BLOSUM62
Gapop 10.0 , Gapext 0.5

Searched: 268485 seqs, 34193795 residues

Total number of hits satisfying chosen parameters: 268485

Minimum DB seq length: 0

Maximum DB seq length: 200000000

Post-processing: Minimum Match 0%

Maximum Match 100%
Listing first 45 summaries

Database :

A_Geneseq_36: *
1: /SIDSL/gcgdata/geneseq/geneseq/AA1980.DAT: *
2: /SIDSL/gcgdata/geneseq/geneseq/AA1981.DAT: *
3: /SIDSL/gcgdata/geneseq/geneseq/AA1982.DAT: *
4: /SIDSL/gcgdata/geneseq/geneseq/AA1983.DAT: *
5: /SIDSL/gcgdata/geneseq/geneseq/AA1984.DAT: *
6: /SIDSL/gcgdata/geneseq/geneseq/AA1985.DAT: *
7: /SIDSL/gcgdata/geneseq/geneseq/AA1986.DAT: *
8: /SIDSL/gcgdata/geneseq/geneseq/AA1987.DAT: *
9: /SIDSL/gcgdata/geneseq/geneseq/AA1988.DAT: *
10: /SIDSL/gcgdata/geneseq/geneseq/AA1989.DAT: *
11: /SIDSL/gcgdata/geneseq/geneseq/AA1990.DAT: *
12: /SIDSL/gcgdata/geneseq/geneseq/AA1991.DAT: *
13: /SIDSL/gcgdata/geneseq/geneseq/AA1992.DAT: *
14: /SIDSL/gcgdata/geneseq/geneseq/AA1993.DAT: *
15: /SIDSL/gcgdata/geneseq/geneseq/AA1994.DAT: *
16: /SIDSL/gcgdata/geneseq/geneseq/AA1995.DAT: *
17: /SIDSL/gcgdata/geneseq/geneseq/AA1996.DAT: *
18: /SIDSL/gcgdata/geneseq/geneseq/AA1997.DAT: *
19: /SIDSL/gcgdata/geneseq/geneseq/AA1998.DAT: *
20: /SIDSL/gcgdata/geneseq/geneseq/AA1999.DAT: *
21: /SIDSL/gcgdata/geneseq/geneseq/AA2000.DAT: *

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

| Result No. | Score | Query Match | Length | ID | Description |
|------------|-------|-------------|--------|----|------------------------|
| 1 | 384 | 100.0 | 666 | 19 | Macadamia integrifolia |
| 2 | 367 | 95.6 | 666 | 19 | Macadamia integrifolia |
| 3 | 359 | 93.5 | 625 | 19 | Macadamia integrifolia |
| 4 | 175 | 45.6 | 525 | 19 | Macadamia integrifolia |
| 5 | 175 | 45.6 | 566 | 13 | Macadamia integrifolia |
| 6 | 149 | 38.8 | 590 | 19 | Macadamia integrifolia |
| 7 | 113 | 29.4 | 1898 | 20 | Macadamia integrifolia |
| 8 | 111 | 28.9 | 1162 | 21 | Macadamia integrifolia |
| 9 | 103.5 | 27.0 | 409 | 20 | Macadamia integrifolia |
| 10 | 103.5 | 27.0 | 489 | 20 | Macadamia integrifolia |
| 11 | 102.5 | 26.7 | 611 | 20 | Macadamia integrifolia |
| 12 | 99 | 25.8 | 1135 | 21 | Macadamia integrifolia |

| | | | | | |
|----|------|------|------|----|--------|
| 13 | 99 | 25.8 | 1233 | 20 | Y55954 |
| 14 | 99 | 25.8 | 1239 | 20 | Y55931 |
| 15 | 98.5 | 25.7 | 1297 | 20 | Y55932 |
| 16 | 98.5 | 25.7 | 1360 | 21 | Y85263 |
| 17 | 98 | 25.5 | 482 | 20 | Y07067 |
| 18 | 98 | 25.5 | 562 | 16 | R70491 |
| 19 | 97 | 25.3 | 2023 | 21 | Y54320 |
| 20 | 96 | 25.0 | 444 | 20 | W90340 |
| 21 | 96 | 25.0 | 524 | 20 | W90339 |
| 22 | 94.5 | 24.6 | 1326 | 20 | W55933 |
| 23 | 92 | 24.0 | 2074 | 21 | Y54319 |
| 24 | 91 | 23.7 | 360 | 17 | W03627 |
| 25 | 91 | 23.7 | 412 | 17 | W03626 |
| 26 | 91 | 23.7 | 593 | 19 | W62835 |
| 27 | 90.5 | 23.6 | 740 | 13 | R27530 |
| 28 | 90.5 | 23.6 | 740 | 16 | R68838 |
| 29 | 90.5 | 23.6 | 1299 | 21 | Y56633 |
| 30 | 88.5 | 23.0 | 303 | 15 | R60054 |
| 31 | 87.5 | 22.8 | 346 | 20 | Y20115 |
| 32 | 87.5 | 22.8 | 373 | 20 | Y20114 |
| 33 | 87.5 | 22.8 | 505 | 18 | W31186 |
| 34 | 87.5 | 22.8 | 1135 | 18 | W31185 |
| 35 | 87 | 22.7 | 432 | 20 | W93954 |
| 36 | 86 | 22.4 | 386 | 11 | R06849 |
| 37 | 86 | 22.4 | 386 | 11 | R04828 |
| 38 | 86 | 22.4 | 910 | 20 | Y22191 |
| 39 | 85 | 22.1 | 1178 | 18 | W30763 |
| 40 | 84.5 | 22.0 | 186 | 18 | W26536 |
| 41 | 84.5 | 22.0 | 186 | 20 | Y23298 |
| 42 | 84.5 | 22.0 | 301 | 8 | P70867 |
| 43 | 84.5 | 22.0 | 326 | 20 | Y20119 |
| 44 | 84.5 | 22.0 | 359 | 20 | Y20118 |
| 45 | 84.5 | 22.0 | 605 | 20 | Y40999 |

ALIGNMENTS

| | |
|----------|--|
| RESULT 1 | |
| W62829 | standard; Protein; 666 AA. |
| AC | W62829; |
| AC | W62829; |
| DT | 27-OCT-1998 (first entry) |
| XX | Macadamia integrifolia antimicrobial protein. |
| XX | antimicrobial protein; infestation; control. |
| OS | Macadamia integrifolia. |
| XX | |
| FX | Key |
| FT | Peptide |
| FT | Protein |
| FT | Location/Qualifiers |
| FT | /note="signal peptide" |
| FT | 29..666 |
| FT | /note="mature protein" |
| PN | W09827805-A1. |
| PD | 02-JUL-1998. |
| XX | |
| PF | 22-DEC-1997; 97WO-AU00874. |
| XX | |
| PR | 20-DEC-1996; 96AU-0004275. |
| XX | |
| PA | (RETR-) COOP RES CENT TROPICAL PLANT PATHOLOGY. |
| XX | |
| PI | Bower NI, Goulter KC, Green JL, Manners JM, Marcus JP; |
| DR | WPI: 1998-377279/32. |
| XX | N-PSDB: V42311. |
| XX | |

Mouse STE20-related
Human ZC1 protein.
Human ZC2 protein.
Human protein kinase
Renal cancer assoc
Leucocytozoan prot
Amino acid sequenc
G. max truncated S
Human SBP1 protei
Human ZC3 protein.
Amino acid sequenc
Human follicle sti
Human thymotrophi
Zea mays antimicro
Plasmodium falcipa
Plasmodium falcipa
Protein regulating
Dirofilaria immiti
B. burgdorferi ant
Human p160 polypep
Human p160 polypep
Human regulatory m
Protein Arp 4. R
Arp 4. Streptococ
Mouse brain CNG-1
Mannose-1-phosphat
Trypanosoma cruzi
Sequence of acidic
B. burgdorferi ant
Soybean beta-congl

PT Novel anti-microbial protein from e.g. Macadamia integrifolia -
PT useful for controlling microbial infestations of plants or mammals
XX
PS Claim 1: Page 39-41; 96pp; English.
XX
CC The sequence is that of an antimicrobial protein which can
CC be used to control microbial infestations in plants and mammalian
CC animals.
XX
SQ Sequence 666 AA;

Query Match 100.0%; Score 384; DB 19; Length 666;
Best Local Similarity 100.0%; Pred. No. 5.1e-31;
Matches 69; Conservative 0; Mismatches 0; Indels 0; Gaps 0;

OY 1 NRORDPQOQYEOCCERQHETPRHMOTCOQCERRYEKKRKQOKRYEEOQREDEEKY 60
DB 117 nrgtdpqyqeqcqrctreptmncqgcrryckrkqkryeeqgdeeky 176
OY 61 EERMKEDN 69
DB 177 eermkeedn 185

RESULT 2

W62828 W62828 standard; Protein; 666 AA.

AC W62828;

DT 27-OCT-1998 (first entry)

DE Macadamia integrifolia antimicrobial protein.

KM antimicrobial protein; infestation; control.

OS Macadamia integrifolia.

XX Key Location/Qualifiers

FT Peptide 1..28 /note="signal peptide"

FT Protein 29..666 /note="mature protein"

PN W09827805-A1.

PD 02-JUL-1998.

PF 22-DEC-1997; 97WO-AU00874.

PR 20-DEC-1996; 96AU-0004275.

PA (RETR-) COOP RES CENT TROPICAL PLANT PATHOLOGY.

PI Bower NI, Goulter KC, Green JL, Manners JM, Marcus JP;

DR WPI; 1998-377279/32.

DR N-PSDB; V42310.

PT Novel anti-microbial protein from e.g. Macadamia integrifolia -
PT useful for controlling microbial infestations of plants or mammals
XX
PS Claim 1; Page 34-36; 96pp; English.
XX
CC The sequence is that of an antimicrobial protein which can
CC be used to control microbial infestations in plants and mammalian
CC animals.
XX
SQ Sequence 666 AA;

Query Match 95.6%; Score 367; DB 19; Length 666;

Best Local Similarity 95.7%; Pred. No. 2.6e-29;
Matches 66; Conservative 1; Mismatches 2; Indels 0; Gaps 0;

OY 1 NRORDPQOQYEOCCERQHETPRHMOTCOQCERRYEKKRKQOKRYEEOQREDEEKY 60
DB 117 nrgtdpqyqeqcqrctreptmncqgcrryckrkqkryeeqgdeeky 176

OY 61 EERMKEDN 69
DB 177 eermkeedn 185

RESULT 3

W62830 W62830 standard; Protein; 625 AA.

AC W62830;

DT 27-OCT-1998 (first entry)

DE Macadamia integrifolia antimicrobial protein.

KM antimicrobial protein; infestation; control.

OS Macadamia integrifolia.

XX Key Location/Qualifiers

FT Peptide 1..28 /note="signal peptide"

FT Protein 29..666 /note="mature protein"

PN W09827805-A1.

PD 02-JUL-1998.

PF 22-DEC-1997; 97WO-AU00874.

PR 20-DEC-1996; 96AU-0004275.

PA (RETR-) COOP RES CENT TROPICAL PLANT PATHOLOGY.

PI Bower NI, Goulter KC, Green JL, Manners JM, Marcus JP;

DR WPI; 1998-377279/32.

DR N-PSDB; V42316.

PT Novel anti-microbial protein from e.g. Macadamia integrifolia -
PT useful for controlling microbial infestations of plants or mammals
XX
PS Claim 1; Page 43-45; 96pp; English.
XX
CC The sequence is that of an antimicrobial protein which can
CC be used to control microbial infestations in plants and mammalian
CC animals.
XX
SQ Sequence 625 AA;

Query Match 93.5%; Score 359; DB 19; Length 625;
Best Local Similarity 94.2%; Pred. No. 1.5e-28;
Matches 65; Conservative 1; Mismatches 3; Indels 0; Gaps 0;

OY 1 NRORDPQOQYEOCCERQHETPRHMOTCOQCERRYEKKRKQOKRYEEOQREDEEKY 60
DB 76 nrgtdpqyqeqcqrctreptmncqgcrryckrkqkryeeqgdeeky 135

OY 61 EERMKEDN 69
DB 136 eermkeedn 144

RESULT 4

```

W62831
ID W62831 standard; Protein; 525 AA.
XX
AC W62831:
XX
DT 27-OCT-1998 (first entry)
XX
DE Theobroma cacao antimicrobial protein.
XX
KW antimicrobial protein; infestation; control.
XX
OS Theobroma cacao.
XX
PN MO9827805-A1.
XX
PD 02-JUL-1998.
XX
PF 22-DEC-1997; 97MO-AU00874.
XX
PR 20-DEC-1996; 96AU-0004275.
XX
PA (RETR-) COOP RES CENT TROPICAL PLANT PATHOLOGY.
XX
PI Bower NI, Goulter KC, Green JL, Manners JM, Marcus JP;
DR WPT: 1998-377279/32.
XX
XX
XX PT Novel anti-microbial protein from e.g. Macadamia integrifolia -
XX useful for controlling microbial infestations of plants or mammals
XX
XX PS Claim 1; Page 47-49; 96pp; English.
XX
CC The sequence is that of an antimicrobial protein which can
XX be used to control microbial infestations in plants and mammalian
XX animals.
SQ Sequence 525 AA:

Query Match 45.6%; Score 175; DB 19; Length 525;
Best Local Similarity 32.4%; Pred. No. 3,4e-10;
Matches 33; Conservative 19; Mismatches 14; Indels 36; Gaps 2;

QY 3 ORDPOQVTEGQCQRRCQHETEPHMQTCQQRCRRERYEKERKKKQ----- 46
   :|||:||||| ||| : | : ||||| :::||| :
Dy 35 erdprgyegqgrfcesateeregegcrcerkykeqrqgqeelqryqgcgrcge 94
QY 47 -----KRYEQQRDEDKY----ERRKKEED 68
   ::|||:| : | : ||| :
Db 95 qggqgreqgcqrcqwkgkewykeqgerghenylnhkknrseee 136

RESULT      5
R20181
ID R20181 standard; Protein; 566 AA.
XX
AC R20181:
XX
DT 16-APR-1992 (first entry)
XX
DE Sequence encoded by 67 kD T. cacao protein cDNA.
XX
KW Cocoa; flavour; vicillin; seed storage protein.
XX
OS Theobroma cacao.
XX
PN WO9119801-A.
XX
PD 26-DEC-1991.
XX
PF 07-JUN-1991; 91WO-GB00914.
XX
PR 11-JUN-1990; 90GB-0013016.
```

```

XX      (MRSC ) MARS UK LTD.
PA
XX
XX      Spencer ME, Hodge R, Deakin EA, Ashton S,
PI
XX
XX      WPI; 1992-024418/03.
DR
XX      N-PSDB; Q20377.
PT
XX      Recombinant cocoa proteins - are responsible for flavour in cocoa
FT      beans and produced in large quantities using yeast and bacterial
PT      expression vectors
XX
XX      Claim 4; Fig 2; 59pp; English.
PS
XX
CC      The inventors claim a 67 kD and 31 kD T. cacao protein, and
CC      fragments, and encoding DNAs. The 47 kD and 31 kD proteins are
CC      derived from the 67 kD precursor. T. cacao protein cDNA was
CC      detected in a cDNA library prepared from immature cocoa beans RNA
CC      using a probe based on the AA sequence of a CNR peptide common to
CC      the 47 kD and 31 kD polypeptides. Homology searches revealed close
CC      homologues between the 67 kD polypeptide and the vicilins, which are
CC      seed storage proteins.
SQ
Sequence      566 AA;

Query Match          45.6%, Score 175; DB 13; Length 566;
Best Local Similarity 32.4%; Pred. No. 3.7e-10;
Matches   33; Conservative 19; Mismatches 14; Indels 36; Gaps 2;

QY      3 GRDPQQOYEEOGEOERORHETPRHMVQCQRCERYEKREKRQO----- 46
       :|||:||||| ||| || | : ||||| |:::|||:
Db      35 erdprqyqcqrceesateeregeqrcererykqqrqeelrqrygqcgrrcqe 94
QY      47 -----KRYEQQRDEEKKY---EERRKEED 68
       ::|||:||| : | | : | ||:
Db      95 qgggqreqgcqgrkcwqgykegergerghenymhkknrseeee 136

RESULT      6
ID ID      W62832 standard; Protein; 590 AA.
XX
AC AC      W62832;
XX
DT DT      27-OCT-1998 (first entry)
XX
DE DE      Gossypium hirsutum antimicrobial protein.
XX
KW KW      antimicrobial protein; infestation; control.
XX
OS OS      Gossypium hirsutum.
XX
PN PN      WO9827805-A1.
XX
PD PD      02-JUL-1998.
XX
PF PF      22-DEC-1997; 97WO-AU00874.
XX
PR PR      20-DEC-1996; 96AU-0004275.
PA (RETR-) COOP RES CENT TROPICAL PLANT PATHOLOGY.
PI Bower NI, Goulter KC, Green JL, Manners JM, Marcus JP;
XX
XX      WPI; 1998-377279/32.
XX
XX      Novel anti-microbial protein from e.g. Macadamia integrifolia -
PT      useful for controlling microbial infestations of plants or mammals
XX
XX      Claim 1; Page 49-51; 96pp; English.
XX
XX      The sequence is that of an antimicrobial protein which can

```

CC be used to control microbial infestations in plants and mammalian
 CC animals.
 XX
 SQ Sequence 590 AA.

| | | | | |
|-----------------------|------------------|--------------------|------------|-------------|
| Query Match | 38.8% | Score 149; | DB 19; | Length 590; |
| Best Local Similarity | 33.0% | Pred. No. 1.6e-07; | | |
| Matches 31; | Conservative 19; | Mismatches 16; | Indels 28; | Gaps 3; |

```

QY      1 NRGDPRQDQDEGSCQKRNHEPRNHOCSQKRCERRRYEKKKRQOKRYEEDQ----- 53
      :| |||::|||::| : :| |||| :|||::| :|||::| :|||::| :|||::|
Db      78 hrpdpqrlyeacqgcr--qgeerqgpcqqr|krlfegdqgqsqrqfgecqghnqge 135

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QY 54 -----REDECKY-----EERMEED 68
      || |||
Db 136 grpekkgcvrecrekkyqenpwrgrereeeeee 169

```

| | |
|--------|------------------------------------|
| RESULT | 7 |
| Y30795 | |
| ID | Y30795 standard; Protein; 1898 AA. |
| vv | |

DT 25-NOV-1999 (first entry)
XX
DE A human trichohyalin (TRHY) protein.

KW Human; trichohyalin; TRHY; protein; tissue structure; wound healing;
KW terminally differentiating epidermal tissue; proteinaceous gel;
KW breast implant.

| | |
|----|---------------|
| OS | Homo sapiens. |
| XX | |
| PN | US5958752-A. |

| | |
|----|----------------------------|
| PD | 28-SEP-1999. |
| XX | |
| PF | 14-FEB-1997; 97US-0800644. |

PR 30-APR-1993; 93US-0056200.
XX
PA (USSH) US DEPT HEALTH & HUMAN SERVICES.

Kim I, Chung S, Park S, Steinert PM, Lee S;
WPI; 1999-561041/47.

| | |
|----|---|
| XX | |
| PT | Human trichohyalin useful for forming a proteinaceous gel that promotes wound healing - |
| PT | |

AA Disclosure; Fig 3A-W; 126pp; English.
PS
XX
CC The present sequence represents a hum

CC The present sequence represents a human trichohyalin (TRH) protein.
CC The protein is found in terminally differentiating epidermal tissue,
CC and is involved in forming the structural architecture of such
CC tissue. The trichohyalin protein is useful for forming a
CC proteaceous gel which may then be used for healing wounds, or in
CC breast implants.

Sequence 1898 AA;

| | | | | |
|-----------------------|------------------|-------------------|-----------|--------------|
| Query Match | 29.48; | Score 113; | DB 20; | length 1898; |
| Best Local Similarity | 33.38; | Pred. NO. 0.0022; | | |
| Matches 25; | Conservative 22; | Mismatches 20; | Indels 8; | Gaps 2; |

```
Oy      2 R0RDPQ00YEQCQEKRCORHETEPRHNMOTCCQKCERRYEK-----EKKRQCKRYEEQ-Q    53
         |:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|:::|
Db     468 regeertwklkreeterhegerkrqglkrdqeerterwlkleeerreqgeteqqlr   527
```

```
QY      54 REDEKYEERMKEED 68  
        ||||| : |:| : :  
Db     528 regeerreglkrqe 542
```

| | |
|--------|------------------------------------|
| RESULT | 8 |
| Y58500 | |
| ID | Y58500 standard; Protein; 1162 AA. |

| | |
|----|---------------------------|
| AC | Y58500; |
| XX | |
| DT | 10-APR-2000 (first entry) |

| | |
|----|------------------------------------|
| DE | HHV8 ORF 73 protein, SEQ ID NO:21. |
| XX | |
| KW | HHV8; detection; diagnosis; Kaposi |

OS Human herpesvirus type 8

| | Key | Location/Qualifiers |
|-----|-----------------|---------------------|
| FH | | |
| FT | Misc-difference | 96 |
| FT | | /label= unknown |
| ... | | |

| | |
|----|---------------|
| PN | WO9961909-A2. |
| XX | |
| PD | 02-DEC-1999. |
| UN | |

| | | |
|----|--------------|--------------|
| PF | 26-MAY-1999; | 99WO-US11407 |
| XX | | |
| PR | 26-MAY-1998; | 98US-0086695 |

PA (USSH) US DEPT HEALTH & HUMAN SERVICES
XX
PI Pau CP;

| | |
|----|----------------------|
| DR | WPI; 2000-097142/08. |
| XX | |
| PT | New methods and comp |

PS Claim 2; Page 59-62; 68pp; English.

Sequence Y58480-Y58532 represent immunogenic polypeptides derived from human herpes virus type 8 (HHV8, a gammaherpesvirus). HHV8 plays an important role in the pathogenesis of AIDS-related Kaposi's sarcoma. The invention relates to a novel method of detecting the presence of human herpesvirus 8 in a biological sample using peptides representative of dominant antigenic regions of HHV8. The method comprises contacting one or more isolated, immunogenic HHV8 peptides with an antibody-containing biological sample, and detecting the formation of a complex between the peptide and the antibody. The presence of a peptide-antibody complex indicates the presence of human herpesvirus 8. The detection of HHV8 infection can be used to diagnose AIDS-associated Kaposi's sarcoma. The HHV8-specific antibodies are useful therapeutically when for the passive immunisation of a human against HHV8 infection, thereby reducing HHV8 related disease. The detection assays are highly specific, sensitive and accurate. Early detection and treatment of Kaposi's sarcoma could diminish the severity of symptoms related to AIDS and the sensitive techniques could reduce erroneous characterisations of skin disorders. Previous assays for HHV8 antibodies such as immunofluorescence assays, immunoblots and enzyme immunoassays lack the sensitivity and accuracy needed for reliable diagnosis of Kaposi's sarcoma. Further advantages of the assays are that reproducible results are obtained and the method is suitable for rapid throughput and screening of samples economically.

Sequence 1162 AA;

| | | | | |
|-------------|-----------------|------------------|----------|-------------|
| Query Match | 28.9% | Score 111 | DB 21 | Length 1162 |
| Best Local | 31.3% | Pred. No. 0.0021 | | |
| Matches 21 | Conservative 26 | Mismatches 20 | Indels 0 | Gaps 0 |

2 RQRPQQYECCQCRHETEPRHMQTCQQRCEERYEKEKKQKRYEEQREDEKEYE 61

CC cardiomyopathies, ischemic disorders, inflammatory disorders, diabetes
CC mellitus, fibrotic and mesangial disorders. The proteins may also be
CC useful for cell growth regulation (e.g. in wound healing), T cell
CC activation, mitosis control, and as immunosuppressants.

SQ Sequence 1233 AA;

| | | | | |
|-------------|--------|-----------|--------|--------------|
| Query match | 25.88; | Score 99; | DB 20; | Length 1233; |
|-------------|--------|-----------|--------|--------------|

Best Local Similarity 36.18; Pred. No. 0.035;
Matches 30; Conservative 15; Mismatches 20; Indels 18; Gaps 4;

```
Oy      2 RORPQOQVLECCQ--ERCQRHTEPRHMOTCOORCERREKEKKR---OQRYEEOOR- 54
         || : :: || : | | | | | : || | : ::| :   ::::|| ::|
Db     394 rqrleqqkgqrrlrleeqqrtrrearrqgqreqr--rrgeekkrlllelerrrkkeesrr 451
```

```
QY      55 -----EDEEKYEERMKED 68
          | | : | | | :
Db      452 raeeekrrveregeyirrqllee 474
```

| | |
|--------|------------------------------------|
| RESULT | 14 |
| Y55931 | |
| ID | Y55931 standard; Protein; 1239 AA. |

| | |
|----|---------------------------|
| AC | Y55931; |
| XX | |
| DT | 18-FEB-2000 (first entry) |
| XX | |
| DE | Human ZC1 protein. |

KW Antihypertensive; antihyperlipidemic; antiinflammatory; antiallergic; osteopathic
KW Antihypertensive; antihyperlipidemic; antihypertensive; antihypertensive;
KW neuroprotective; cardiant; cerebroprotective; cytostatic; antidiabetic;
KW valine; STE20; protein kinase; STUK2; STUK3; STUK4; STUK5; STUK6; STUK7;
KW ZC1, ZC2, ZC4, KHS2, S0L01, S0L03, GEM2, PAK1, PAK5; antagonist;
KW antibody; gene therapy; rheumatoid arthritis; atherosclerosis; asthma;
KW inflammatory bowel disease; Crohn's disease; osteoarthritis; psoriasis;
KW rhinitis; autoimmunity; organ transplantation; multiple sclerosis;
KW myocardial infarction; cardiovascular disease; stroke; renal failure;
KW oxidative stress-related neurodegenerative disorder; Parkinson's disease;
KW amyotrophic lateral sclerosis; Leigh syndrome; cancer; cardiomyopathy;
KW ischemic disorder; inflammation; diabetes mellitus; fibrosis; mitosis;
KW mesangial disorder; growth regulation; wound healing; T cell activation;
KW immunosuppressant.

| | | |
|----|---------------|---------------|
| OS | Homo sapiens. | |
| XX | | |
| PN | MO9953036-A2. | |
| XX | | |
| PD | 21-OCT-1999. | |
| XX | | |
| PE | 13-APR-1999; | 99MO-US08150. |
| XX | | |
| PR | 14-APR-1998; | 98US-0081784. |

PA (SUGE-) SUGEN INC.

PI Plowman G, Martinez R, Whyte D:

DR WPI; 1999-611301/52.
DR N-PSDB; Z40483.

PT Novel kinase-related polypeptides used for the diagnosis and treatment of kinase-related diseases and disorders -

PS Claim 11; Page 269-274; 387pp; English.

CC This sequence represents a novel STE20-related protein kinase. The
CC invention relates to nucleic acid molecule encoding a kinase polypeptide
CC selected from STK2, STK3, STK4, STK5, STK6, STK7, ZC1, ZC2, ZC3,
CC ZC4, KHS2, SULK1, SULK3, GSK3, PAK4 and PAK5. The proteins are used to
CC identify agonists and antagonists, and to raise antibodies. The

CC polynucleotides are useful in gene therapy protocols. The polynucleotides
CC polypeptides, antibodies, antagonists and agonists may be used to treat
CC diseases such as immune-related disorders and diseases (e.g. rheumatoid
CC arthritis, atherosclerosis, chronic inflammatory bowel disease (e.g.
CC Crohn's disease), asthma, osteoarthritis, psoriasis, atherosclerosis,
CC rhinitis, autoimmunity, and organ transplantation, chronic inflammatory
CC pelvic disease, multiple sclerosis, organ transplantation, myocardial
CC infarction, cardiovascular disease, stroke, renal failure, oxidative
CC stress-related neurodegenerative disorders (e.g. amyotrophic lateral
CC sclerosis, Parkinson's disease and Leigh syndrome), cancer,
CC cardiomyopathies, ischemic disorders, inflammatory disorders, diabetes
CC mellitus, fibrotic and mesangial disorders. The proteins may also be
CC useful for cell growth regulation (e.g. in wound healing), T cell
CC activation, mitosis control, and as immunosuppressants.

SQ Sequence 1239 AA;

| | | | | |
|-----------------------|------------------|------------------|------------|--------------|
| Query Match | 25.88; | Score 99; | DB 20; | Length 1239; |
| Best Local Similarity | 36.18; | Pred. NO. 0.035; | | |
| Matches 30; | Conservative 15; | Mismatches 20; | Indels 18; | Gaps 4; |

```
Oy      2 RQRDPQOQEYECG--ERCORHETPEPHMOTCOOCRCERREKEKRK---OOKRYEEDOR- 54  
         || :|| | :| | | | | | :|| | :|||| :|| |:||  
Db     395 rqrkieqgkegrnrleeqqrrrearrtggeregr--rreeekrtlleelerrtkeeert 452
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QY      55 -----EDEEKYEERMKEED 68
          | | : : | | : :
Db      453 raeeekrrveregeylrrqllee 475
```

| | |
|--------|-----------------------------------|
| RESULT | 15 |
| Y55932 | |
| ID | Y55932 standard; Protein; 1297 AA |

| | |
|----|---------------------------|
| AC | Y55932; |
| XX | |
| DT | 18-FEB-2000 (first entry) |
| XX | |
| DE | Human ZC2 protein. |

KM Antihypertensive; antiatherosclerotic; antiinflammatory; antifibrotic; osteoprotective;
KM antispasmodic; antihypertensive; antithrombotic; antitumor; immunosuppressive;
KM neuroprotective; cardiact; cerebroprotective; cytoskeletal; antidiabetic;
KM vitineye; STE20; protein kinase; STIK2; STIK3; STIK4; STIK5; STIK6; STIK7
KM ZC1, ZC2, ZC3, ZC4, KHS2, SODU1, SODU3, GSK2, PAK4, PAK5; antagonist;
KM antibody; gene therapy; rheumatoid arthritis; atherosclerosis; asthma;
KM inflammatory bowel disease; Crohn's disease; osteoarthritis; psoriasis;
KM rhinitis; autoimmunity; organ transplantation; multiple sclerosis;
KM myocardial infarction; cardiovascular disease; stroke; renal failure;
KM oxidative stress-related neurodegenerative disorder; Parkinson's disease;
KM ankylosing lateral sclerosis; Leigh syndrome; cancer; cardiomyopathy;
KM ischemic disorder; inflammation; diabetes mellitus; fibrosis; mitosis;
KM mesangial disorder; growth regulation; wound healing; T cell activation;
KM immunosuppressant.

| | | | |
|----|---------------|---------------|--|
| XX | | | |
| OS | Homo sapiens. | | |
| XX | | | |
| PN | MO9953036-A2. | | |
| XX | | | |
| PD | 21-OCT-1999. | | |
| XX | | | |
| PF | 13-APR-1999; | 99MO-US08150. | |
| XX | | | |
| | 14-APR-1998; | 98US-0081784. | |

PA (SUGEN) SUGEN INC.

PI Plowman G, Martinez R, Whyte D,

DR WPI; 1999-611301/52
DR N-PSDB; 240484.

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